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Supplementation of Co-products for Cow-Calf Grazing Systems – Progress Report

A.S. Leaflet R2185

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Summary and Implications

The objective of this three year demonstration project is to evaluate the feeding of various corn co-products in cow-calf grazing operations in Iowa. Year one efforts included on-farm demonstrations at two southern Iowa farms. Both demonstration sites included a control group without co-product and a group with supplementation, using existing management herds.

A demonstration in Lucas County involved three herds: a control with no supplementation (60 pairs), a group feeding 12 lb every other day of wet distiller's grains with solubles (64 pairs), and another group feeding 6 lbs every other day of a 50/50 pellet with DDGS and SB hulls (80 pairs). Cows were fed from July 6 to September 15. Cost per head per day on the group fed pellets was \$.185, with the cost of feeding wet DGS at \$.045 per head per day. Dry conditions led to grass heights below 3.7 inches on the treated pastures on August 2, while the more diverse control pasture remained above five inches. Cows in all groups maintained body condition scores through weaning.

The demonstration in Union County involved two herds: a control group of 30 pairs and another group of 30 receiving 5 pounds of a DDGS based cube fed very other day. Cost of supplementation in the treated group was \$.25 per head per day. Forage availability was higher throughout the grazing period at this location. From August 2 to August 25 there was a larger numerical increase in pasture heights in the supplemented pasture (1.5 inches), compared to the control pasture (.14 inches). Condition scores in both groups decreased slightly. Calf weight per day of age was higher on the control group (3.06 pounds/day) compared to the supplemented group (2.83 pounds per day), perhaps due to higher prevalence of fescue.

Supplementation at these low levels may be beneficial to the cattle, but no trends for grass substitution or animal performance can be drawn from this set of data.

Introduction

Increased availability of corn co-products are leading producers to more uses of these feedstuffs. In Iowa, Iowa Beef Center surveys found that cow calf operations are less likely to take advantage of this resource compared to feedlots. A three year demonstration project funded by the Leopold Center for Sustainable Agriculture is looking at various delivery methods for cow calf operations.

Materials and Methods

A demonstration on the Henry Langstraat farm in Lucas County involved three herds: a control with no supplementation (60 pairs), a group feeding 12 lb every other day of wet distiller's grains with solubles (64 pairs), and another group feeding 6 lbs every other day of a 50/50 pellet with DDGS and SB hulls (80 pairs). The analysis of this pellet (91.4% DM) on a dry matter basis is as follows: 21.84% Crude Protein, 30.4 ADF, .43% Sulfur, 7.43% Fat. Both products were procured by the Prarieland Cooperative. Co-product was fed for 58 days beginning on July 6, 2006. Delivery of all the co-products was via five gallon pails, fed on the ground. All cattle were grazed in a continuous system. Treated groups grazed predominantly fescue pastures, infected with the endophyte, while the control group grazed a more diverse pasture including fescue (50%), brome, orchard grass, and legumes. Fescue samples were evaluated by the Agrinostics Laboratory in Georgia, with fescue endophyte levels above 90% infection in all pastures.

The demonstration on the Ron Dunphy farm in Union County involved two herds: a control group of 30 pairs and another group of 30 receiving 5 pounds of a DDGS based cube fed very other day. Cubes used in this demonstration were source from Cargill Animal Nutrition. The analysis of this product (87.05% DM) on a dry matter basis is as follows: 33.94% Crude Protein, 16.17% ADF, .42% Sulfur, 7.13 % Fat. Co-product was fed for 59 days beginning on July 7, 2007. The cubes were fed on the ground, poured from fifty pound bags. The cows are Gelbvieh-Angus crossbreds, with the treated cattle a higher percent Gelbvieh. Pastures were rotationally grazed. The supplemented pasture was predominantly fescue (over 75%), with the control a more diverse mix (less than 30% fescue). Fescue from the control pasture tested at 95% endophyte infection, with the control pasture testing at the 65% level.

Results and Discussion

Lucas County Demonstration. Cows were supplemented from July 6 to September 1. Cost per head per day on the group fed pellets was \$.185, with the cost of feeding wet DGS at \$.045 per head per day. Dry conditions led to grass heights below 3.7 inches on the treated pastures measured August 2, while the more diverse control pasture remained above five inches. Following rains in August all pastures recovered. Grass height data can be found in Table 1.

Beef cow condition scores were taken at the beginning of the trial and at weaning time. Cows in all groups maintained condition throughout the trial (Table 1).

Iowa State University Animal Industry Report 2007

Calf weights, pregnancy data, and calving intervals will be summarized at a future date.

Union County Demonstration. Cow calf pairs were supplemented from July 6 to September 4. Cost of supplementation in the treated group was \$.25 per head per day. Forage availability was higher throughout the grazing period at this location.

From August 2 to August 25 there was a larger numerical increase in pasture heights (Table 2) in the supplemented pasture (1.5 inches), compared to the control pasture (.14 inches). Condition scores in both groups decreased slightly (Table 2).

Calf weight per day of age was higher on the control group (3.06 pounds/day) compared to the supplemented group (2.83 pounds per day), perhaps due to higher prevalence of fescue.

Calf weights, pregnancy data, and calving intervals will be summarized at a future date.

Future demonstration conducted for the project will include treatments with higher feeding levels of co-products, and stocking rate adjustments based on level of supplementation.

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Table 1. Grass heights and cow condition scores (Lucas County Demonstration).

Grass Heights				
	July 6	August 2	August 22	October 4
Control	6.68	5.23	7.0	5.2
Pellets	5.14	3.04	5.15	5.9
Wet	6.35	3.64	4.68	5.13
Condition Scores				
	July 6	October 23		
Control	5.56	5.50		
Pellets	5.43	5.52		
Wet	5.59	5.55		

Table 2. Grass heights and cow condition scores (Union County Demonstration).

Grass Heights			
	July 11	August 2	August 25
Control	8.95	6.20	6.34
Cubes	9.86	5.58	7.08
Condition Scores			
	July 11	August 25	
Control	5.61	5.31	
Cubes	5.28	5.10	